What is claimed is:

1. A method of making a probe comprising

forming or applying a layer having a thickness dimension *t* upon a body portion; and

exposing the layer, wherein the exposed layer comprises the active portion of the probe, the active portion having a probing dimension *p* being a function of *t*.

2. A method of making a probe comprising

forming or applying a layer having a thickness dimension t upon a first body portion;

forming or applying a second body portion on the layer;

removing the layer thereby creating a void having an opening thickness dimension o being a function of t, and

exposing the opening, wherein the exposed opening comprises the active portion of the probe, the active portion having a probing dimension p being a function of t.

3. A method as in claims 1-2, wherein exposing the layer comprises slicing, folding, micro machining or etching.

4. A method of forming a probe precursor comprising: providing a substrate;

forming a layer on said substrate; processing a region of said layer in the configuration of a probe with a probe material.

5. A method of forming a probe array precursor comprising:

providing a first layer having processed thereon a first region in the configuration of a probe with a probe material;

providing a substrate; forming a second layer on said substrate;

processing a region of said second layer in the configuration of a probe with a probe material;

removing the second layer from said substrate; and stacking said first layer and said second layer.

6. A method of forming a probe comprising: providing a substrate; forming a layer on said substrate; processing a region of said layer in the configuration of a probe with a probe material; removing said layer with said processed region; and exposing a probe area of said processed region.

7. A method of forming a probe array comprising:

providing a first layer having processed thereon a first region in the configuration of a probe with a probe material;

providing a substrate; forming a second layer on said substrate;

processing a region of said second layer in the configuration of a probe with a probe material;

removing the second layer from said substrate;

stacking said first layer and said second layer; and

exposing a probe area in said processed region of at least said one of said first layer and said second layer.

8. A method of forming a probe precursor comprising: providing a substrate; forming a layer on said substrate;

processing a region of said layer in the configuration of a probe with a removable material.

9. A method of forming a probe array precursor comprising:

providing a first layer having processed thereon a first region in the configuration of a probe with a removable material;

providing a substrate; forming a second layer on said substrate;

processing a region of said second layer in the configuration of a probe with a removable material;

removing the second layer from said substrate; and stacking said first layer and said second layer.

10. A method as in any of claims 5-9, wherein said layer (or second layer) is selectively bonded on said substrate with strong bond regions and weak bond regions, wherein processing of the region in the layer (or second layer) is at weak bond regions, (further wherein removing the second layer from the substrate comprises debonding at the strong bond regions.

11. A method as in any of claims 5-9, wherein said processed probe material (or removable material) has a thickness that correlates to a tip dimension of the probe.

12. A method as in any of claims 5-9, wherein said probe material (or removable material) has a thickness that correlates to a tip dimension of the probe, said thickness being about 0.1 nanometers to about 10 nanometers.

13. A probe for analyzing an extended object, the extended object having plural sub-objects, the probe comprising a body having an edge, the edge having a thickness less than a relevant dimension of one of said sub-objects, and a length substantially greater than a relevant dimension of one of said sub-objects.

14. A probe as in claim 13 wherein said probe includes a material that hybridizes with at least one known sub-object of said plural sub-objects.

15. A probe for analyzing an object, the probe comprising a body having an analyzing region, the analyzing region having a dimension less than a relevant dimension of one (or more) of said objects, and a width substantially greater than a relevant dimension of one of said objects.

16. A probe for analyzing an extended object having a plurality of sub-objects, the probe selected from group consisting of nozzle filled with liquid, an particle beam, electron beam, x-ray beam, a light beam, or a metal, the probe including an analyzing region, the analyzing region having a dimension less than a relevant dimension of one (or more) of said sub-objects, and a width or a path width substantially greater than a relevant dimension of one of said objects.

17. A probe for analyzing an object comprising a source of a probe beam, the probe beam having an analyzing dimension less than a relevant dimension of one (or more) of said objects, and a width or a path width substantially greater than a relevant dimension of one of said objects

18. A probe comprising

a body portion and an active portion, the active portion having a probing dimension being a function of the thickness of a layer.

19. A detection system comprising

a probe as in any of claims 13-18;

a base for supporting an extended object

a sub-system for applying a stimuli across the probe and the base wherein a detectable interaction occurs upon passage of an extended object between said probe and said base.

20. A device for analyzing an extended object comprising:

one or more probes as in any of claims 13-18;

wherein the probe imparts excitation on a portion of the extended object to be analyzed.

21. The device as in claim 20, wherein the portion of the extended object to be analyzed is a monomer within a polymer chain.

22. The device as in claim 20, wherein the excitation comprises an electric field.

23. The device as in claim 20, wherein the excitation comprises an electric field induced hybridization event between the portion of the extended object and a portion of the probe.

24. The device as in claim 20, wherein the excitation comprises an electric field and a light source.

25. A device comprising:

one or more probes as in any of claims 13-19;

a handling sub-system for handling an extended object

a stepping sub-system for stepping the relative position of the extended object and the array of probes;

a current measurement system for ascertaining a measurable current pulse upon existing of a hybridization event between one or more of said probes and one or more of the sub-objects within the extended object.

26. A device comprising:

one or more probes as in any of claims 13-19;

a current measurement system for ascertaining a measurable current pulse upon existence of a hybridization event between one or more of said probes and one or more of the sub-objects within the extended object.

27. The device as in claim 26, wherein said measurable current pulse includes contributions based on elastic tunneling, inelastic tunneling, resonantly enhanced tunneling, capacitance, or any combination of the foregoing contributions.

28. A device comprising:

one or more probes as in any of claims 13-19;

a current measurement system for ascertaining a measurable current pulse between one or more of said probes and one or more of the sub-objects within the extended object.

29. A device comprising:

one or more probes as in any of claims 13-19;

a handling sub-system for handling an extended object

a stepping sub-system for stepping the relative position of the extended object and the array of probes;

a current measurement system for ascertaining a measurable current pulse upon existing of a hybridization event between one or more of said probes and one or more of the sub-objects within the extended object.

30. The device as in claim 28-29, wherein said measurable current pulse includes contributions based on inelastic tunneling, resonantly enhanced tunneling, capacitance, or any combination of the foregoing contributions.

31. The device as in any one of claims 26-30, wherein stimuli application and detection measurement are synchronously applied.

32. The device as in claim 31, wherein a pulse is applied to step the specimen to a position to measure a portion of the specimen; an electric field is applied to provide contact between the specimen and the probe, application of a tunneling device pulse; and application of a pulse to open a switch to the current measure device.

33. The device as in claim 32, wherein a light source is synchronously applied prior to opening the switch to the current measuring device.